



Application No. 09/547,065
Art Unit 2671

Supplemental Response to Action
dated 12/02/02

AMENDMENTS

Please amend the above-identified application as follows:

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In The Claims

Please cancel claims 2 and 31 without prejudice or disclaimer.

Please substitute the following claims for claims of the same number previously pending.

Sub
D1
B1

1 1. (Amended) A graphics system comprising a two-dimensional graphics imaging
2 pipeline constructed and arranged to manipulate two-dimensional (2D) images
3 represented by pixel data comprising color and X,Y coordinate data, and excluding Z
4 coordinate data, and to composite separately generated three-dimensional (3D) images
5 represented by pixel data comprising X,Y,Z coordinate and color data,
6 wherein the X,Y coordinate data define horizontal and vertical dimensions of a
7 pixel's display screen location, and wherein the Z coordinate defines an orthogonal
8 distance from the viewpoint to the image rendered at a pixel.

B2

1 13. (Twice Amended) The graphics system of claim 1, wherein said imaging pipeline
2 receives said Z coordinate data over a data channel of the imaging pipeline configured
3 to transfer data other than Z coordinate data, and receives said X,Y coordinate data
4 over an address data channel.

B3

1 18. (Twice Amended) A method for compositing 3D images in a 2D imaging pipeline
2 configured to manipulate two-dimensional (2D) images represented by pixel data
3 comprising color and X,Y coordinate data, and excluding Z coordinate data
4 comprising:
5 storing in a frame buffer a stored 3D image including color data and X,Y,Z
6 coordinate data;

7 processing in the 2D imaging pipeline Z coordinate data of a next 3D image to
8 determine whether the stored or next 3D image is to be rendered at each pixel in a
9 resulting composited image; and

10 replacing said stored color data with color data of said next 3D image for each
11 pixel at which the next 3D image is to be rendered in the composited image,

12 wherein the X,Y coordinate data define horizontal and vertical dimensions of a
13 pixel's display screen location, and wherein the Z coordinate defines an orthogonal
14 distance from the viewpoint to the image rendered at a pixel.

B3
CND
1 19. (Twice Amended) The method of claim 18, wherein said processing Z coordinate
2 data comprises:

3 transferring Z coordinate data of the next image through an available data
4 channel of imaging pipeline;

5 depth testing the stored and next images;

6 updating a depth buffer as necessary to store Z coordinate data of an image
7 that is closest to a current viewpoint; and

8 recording an indication of which 3D image is the closest image.

B4
1 27. (Amended) A method for compositing a stored and a next three-dimensional
2 image in an imaging/two-dimensional graphics pipeline configured to manipulate
3 two-dimensional images represented by pixel data comprising X,Y coordinate data
4 defining horizontal and vertical dimensions of a pixel's display screen location and
5 color data, and excluding Z coordinate data defining an orthogonal distance from the
6 viewpoint to the image rendered at a pixel, the method comprising the steps of:

7 1) storing the stored image in a frame buffer of the imaging pipeline,
8 wherein said stored image includes color data and X,Y,Z coordinate data; and

9 2) processing successively portions of the next image through the imaging
10 pipeline to select which of the next or stored image is closest to a viewpoint and to
11 subsequently save color data of the selected image to the frame buffer.